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THE AMERICAN
UNIVERSITY IN CAIRO

SCHOOL OF
BUSINESS

The American University in Cairo
School of Business

**Demographics, Financials and Property related variables and their
Impact over Mortgage Demand in Egypt : Borrowers' Perspective**

A Thesis Submitted to

The Department of Management

in partial fulfillment of the requirements for
the degree of Master of Science in Finance

by Mina Gamil Stefanos

(under the supervision of Dr. Islam Azzam)*

June/2015

The American University in Cairo

School of Business

[Mortgage Finance Impediments in Egypt: Borrowers' Perspective]

A Thesis Submitted by

[Mina Gamil Stefanos]

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In partial fulfillment of the requirements for
The degree of Master of Science in Finance

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ABSTRACT

Mortgage finance is a very powerful financial tool that is considered an essential driver in the economies of almost all countries. Its importance is derived from the fact that it affects one of the basic essential needs of humans which is shelter or home.

Mortgage finance is an integral financial tool of developed economies such as the US and is an essential boosting ingredient for developing economies such as Egypt.

Although Egypt has been taking serious measures towards establishing a solid mortgage finance market since 2001 through multiple legislative and financial decisions, yet many impediments still hinder the progress of this market keeping it sluggish with almost no significant presence.

Legal and financial constraints are among the top factors negatively affecting mortgage finance in Egypt. Although the government has been taking serious steps towards pushing forward this market, both potential lenders and borrowers refrain to join it where each has plausible reasons to do so.

This thesis mainly focuses on the borrowers' side and the various impediments they face. The core part of this thesis is to present to emphasize the relation between certain attributes of potential borrowers and their willingness to acquire a mortgage loan.

Borrowers in Egypt are either unaware of the mortgage finance tool as a valid and safe source of property funding or they are reluctant to use it due to its complicated process cycle and high interest rate.

The government along with lenders in Egypt should work together to eliminate the various obstacles hindering the progress of such market such as legislating a proper foreclosure scheme. In addition, they should work more towards targeting the correct segment as a start which are low to medium potential homebuyers.

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CHAPTER I: INTRODUCTION

Mortgage is one the most prominent financial tools that drive the economies of many countries. In Egypt mortgage loan is an infamous financial tool that the majority of borrowers aiming at owning new properties are unaware of. In addition, the current mortgage system in Egypt is brimmed with impediments that hinder its growth and survival. This thesis casts the shed over mortgage financing impediments from a borrowers' perspective and the recommended solutions.

1.1 What is mortgage loan?

Mortgage loan is a debt instrument backed up with a collateral where in almost all cases it is a real estate property, whereby the borrower is obliged to pay back to the financing entity the debt amount, claims on the property, through certain amount of payments.

The word "Mortgage" is originally a French-law term which means "death pledge". What is meant by "death pledge" is that the pledge terminates which either the obligation is fulfilled (all scheduled payments are fulfilled) or the property has been reacquired back, by the lender, through a foreclosure.

Mortgages are a widely adopted financial instrument that allows either individuals or businesses to make real estate purchases without paying the entire value of the property up front. Mortgage can be merely perceived as a special type of bank lending.

The essence of mortgage is that the borrower repays the lender, over a period of many years, the loan plus interest until all claims on the property is cleared whereby the borrower fully owns the property. If the borrower fails to pay the mortgage, the lender has the right to foreclose. The lender has the right to evict the borrower from the property and sell it to clear the mortgage debt.

1.2 Real Estate Finance in Egypt

The real estate finance history in Egypt dates back to the establishment of the banking system in Egypt late 1800's. Among the first banks that established business in Egypt was the Egyptian Real Estate bank which was founded by Crédit Lyonnais and Société Générale in 1880 where the target asset class was farm lands.

Before 1952 revolution there is no concrete data about real estate finance and its different forms. Nevertheless, after the revolution it became very clear that the real estate financing has been dominated by the private or public developers.

After the 1952 revolution a rental control law along with land control law has been issued which hindered the progress of investment in real estate by the private sector. Hence, the real estate market in Egypt suffered from massive deterioration which compromised the supply side where the private sector was out of the game leaving the government to fully take over the entire system. Consequently, due to the monopolistic approach along with the new tight laws and regulations, the informal housing model has emerged.

The government played a huge role in controlling the real estate market in Egypt where it offered residential units for low income citizens through its various institutions like the Ministry of Housing and the specialized housing banks.

Later the government established a new regulatory authority called “New Urban Communities Authority (NUCA)”, which main role was to focus the community development outside old Cairo and creating new districts.

As reported in the Bank of Alexandria sector report, the real estate market enjoyed an outstanding flourish at the beginning of the 1980’s where this was attributed to the various socio/cultural/economic factors changes that took place in the late 1970’s and early 1980s. **(Bank of Alexandria, 2012)**

The report has historically divided the period starting 1980s till now into four phases where each phase depicts the real estate market condition as follows:

- Early 1980s till 1997 was a booming period
- From 1997 till 2003 the market shrunk and was a bit sluggish
- From 2003 till 2010 the market showed a real upscale trend with a minor bump during 2008 due to the world economic condition after 2008 financial crisis
- The market went again to a stagnant position with very limited activities after 2011 revolution.

An overall increasing and booming trend has been there since the beginning of the 1980s which by turn affected all variables within this industry such as the land prices, materials and labor.

This uptrend has been justified by the following various factors:

(Bank of Alexandria, 2012)

1. The open door policy adopted by the government in late 1970’s and afterwards which lead to more liquidity in the market.
2. The escalating increase in Egypt’s population leading to inevitable demand.
3. The gulf petroleum boom, where many Egyptians worked there and made substantial amount of transfers, hence increase in liquidity and higher demand real estate asset class.
4. Real estate is an easy and lucrative investment model especially in the absence of other investment opportunities.
5. The increasing inflation rates which grew a conscious that real estate is a safe “value store”.

During the real estate recession period starting 1997 till 2003, Egypt faced a very slow pace in both supply and demand. Analysts, as per Bank of Alexandria report, attribute this to various factors such as the Luxor terrorist incident which highly impacted the Egyptian overall economy drastically. In addition, the increasing supply of high-end units combined with the credit crisis that hit the Egyptian banking sector led to a downwards sliding performance. **(Bank of Alexandria, 2012)**

Among the major factors that has been constantly affecting the real estate economy in general and mortgage finance specifically is the fuzzy and rigid regulatory framework that wasn't able to properly cope with the dynamics of the market and its continuous changes. **(Sahar, 2010)**

After 2003 Egypt enjoyed a relatively high boom in the real estate market due to various factors among which is the increasing GDP rates since then, the increasing prices of oil, the new law of rent and the introduction of the Mortgage Finance Law No. 140 in 2001.

In 2008, the international financial crisis casted its sheds over the real estate market, yet the effect was not that strong.

In 2011, the Egyptian revolution took place where the market froze, yet the properties prices was retained due to various reasons; first, the Egyptians perceive real estate as a store value as has been aforementioned, consequently, they have this belief that the price of real estate will keep going up and never decline. Due to the political instability and economic deterioration the cost of construction has hiked up significantly. All potential real estate owners refrained from purchasing new properties were also buyers were reluctant to offer their properties. **(Bank of Alexandria, 2012) (Sahar, 2010)**

1.3 Current State of Real Estate and Mortgage Finance in Egypt

Egypt current housing state poses itself as a unique one compared to similar countries in terms of economic structure and societal state. Egypt has a high percentage of informal housing compared to low percentage of home ownership than comparable countries. This abnormal state is a cause and effect of the lack of an effective and efficient housing finance mechanism.

Mortgage finance in Egypt is considered to be immature when compared to other counties at a similar stage of economic development. The limited and chaotic formal housing finance mechanism hinders potential mortgage borrowers and potential house buyers from the acquisition attempt.

Currently, the majority of home buyers in Egypt embrace an informal and inefficient means that give them less protection than is accorded to home buyers in most countries.

The most lucid case where the vast majority of home buyers adopt is that they seek buying new houses with the assistance of developer finance. This model is considered to be an expensive one where the bundled interest rate in each installment usually goes above what could be considered as a reasonable mortgage rate. In addition, the home buyer formally obtains title to the property only when the last instalment is paid, whereas in a developed housing finance system the home buyer obtains title as soon as the property is acquired. On the other side, this model is inefficient for developers the since it ties up their capital for relatively long period unless they sought securitization of debt or other means by which they relinquish the debts. **(Boleat, 2001)**

A well-engineered housing finance model should allow Egyptian home buyers, who seek a medium term target for mortgage finance, to borrow money to buy homes at an interest rate at around 3-4% points above the cost of funds.

In Egypt the interest rate could varies between 8 to 15 percentage points whereas in developed markets it is less than two percentage points. An efficiently architecture housing finance regulatory system will shrink the spread and, simultaneously, boost the mortgage market. **(Boleat, 2001)**

As has been reported in the World Bank Report **“A Framework for Housing Policy Reform in Urban Areas in Egypt” (World Bank, 2008)** that Egypt has made a steady progress in *“launching a mortgage finance system, initiating the reform of the land and property registration system, formulating an improved property tax law and a Unified Building Code, implementing a new Rental Law, and expanding the variety of affordable housing typologies offered under social housing programs.”*

As per the World Bank Report, what really manifests Egypt eagerness to reform the housing sector and develop it more was its launch of the National Housing Program (NHP) where this program’s main goal was to provide 500,000 affordable housing units by 2011 for limited budget potential owners and with an easy installment mortgage plan.

However, the report did mention that although Egypt is making real steps towards a reform, yet there are real constraints with regards to the urban housing stock.

*“A large share of Egypt’s urban housing stock is constrained by high vacancy rates, rent control, and informality. Indeed, almost 3.7 million urban housing units are either vacant or closed, an estimated 42% of the housing stock in Greater Cairo is frozen under rent control, and some 45% of new urban housing over the past decade was produced by the informal sector. While these three distortions are not entirely additive (e.g. an informally built unit may be held vacant and/or under rent control), it could be conservatively estimated that 50% - 70% of the urban housing stock in Egypt suffers from such market constraints. These combined **market weaknesses directly affect the affordability of housing** (which is further compounded by the rapid rise in construction costs and property values), the success of the newly initiated mortgage system, the mobility of labor, and the government’s ability to address the shelter needs of limited income groups.” (World Bank, 2008)*

One of the most crucial and vital merits of having a strong cohesively functioning housing system is that the ability of offering an affordable housing will be more likely along with the a bigger range of choices that fit every category within the market. This will gradually remove the burden of the government subsidy. **(Hassanien, Mohamed, 2008)**

A good functioning housing system will normalize the houses prices, boost the unutilized mortgage system, decrease the construction cost and allow increase the market turnover. **(Hassanien, Mohamed, 2008)**

In the World Bank Report (**World Bank, 2008**), a well-functioning housing system has been generically defined as *“a system in which the supply response is elastic and the market produces products people want at a price range that is affordable.”*

Egypt should embrace a robustly functioning housing system since this will have positive sheds over its fiscal and macroeconomic statues.

As has been stated in the World Bank Report (**World Bank, 2008**) *“a well-functioning housing market produces a wide range of house types with a broad range of prices and tenure options which reduces the demand for government subsidies. Over the past 25 years, the public sector in Egypt built as much as 36% (1.26 million units) of all formal housing units supplied in urban areas. This came at a significant fiscal cost of LE 26.4 billion, not including additional off budget subsidies related to the cost of land and off-site infrastructure. Moreover, while the Ministry of Finance has allocated over LE 1 billion per year towards the NHP, it is estimated that the true off- and on-budget NHP subsidies will reach LE 6.6 billion per year, or around 0.8% of GDP for this program alone. Clearly, housing subsidies represent a sizeable fiscal burden for the Government of Egypt. A poorly functioning housing system has negative macroeconomic consequences as well. Of foremost is that the current investment model of purchasing housing and holding it vacant is based on capital appreciation without cash-flow. This investment model is highly vulnerable to an economic downturn, it pushes housing prices upward, and it is an unproductive use of capital. High levels of vacancy and rent controlled housing stock, moreover, produce an inefficient urban system which has a negative effect on economic growth and limit labor mobility and participation.”*

The perception of real estate as a store value has been created from mal-functioning housing system and the lack of proper regulatory frameworks beside the absence of an adequate mortgage finance system.

The store value of real estate ideology drove the units' prices to almost a continuously increasing price appreciation whereby this model devastates the economy and negatively affects the inflation rates.

Since 2000 the government has concentrated many efforts towards developing an articulated mortgage finance market. The first attempt was through issuing a new mortgage finance law in 2001 to better allow access to housing finance.

However, the attempt did not yield the expected growth within the mortgage market given due to two main factors, as reported in the Alexandria Bank Report, which are the scarcity of land and real estate registration.

Although the market is relatively sluggish, yet it has been steadily improving from year to year as was report in Alexandria Bank Report. (**Bank of Alexandria, 2012**)

“The mortgage sector is still in its early stages, with mortgage loans outstanding reaching LE 2.2 billion in March 2008 (about 0.26% of GDP). Yet, the rate of growth of the mortgage market has been impressive over the last three years (see Figure below), and the expected

growth rate for next year is even higher (for example, the pipeline of mortgages under the NHP amounts to over LE 400 million).

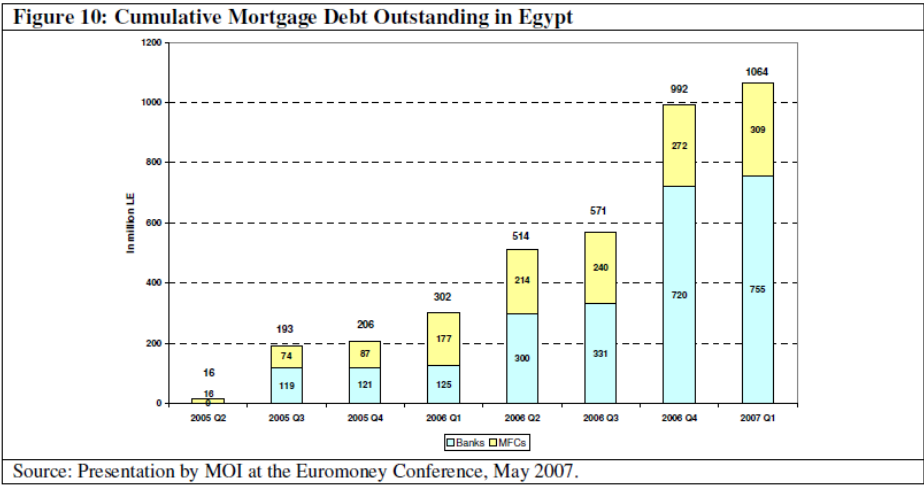


Figure 1: Cumulative Mortgage Debt in Egypt

About 68% of these mortgage loans were made by banks and the balance by non-Bank Mortgage Finance (MFCs). A much larger volume of non-registered mortgages is held by banks for which figures are not known. By comparison, the total amount in outstanding installment loans, the traditional way to finance housing in Egypt, is believed to be in the order of LE 6 billion. By March 31, 2008, the average mortgage loan size was LE 190,000; the average duration was 13.3 years; the average Loan-To- Value (LTV) ratio was 49 percent; and the average interest rate was 12.8 percent. In June 2008, there were eight licensed MFCs with the Mortgage Finance Authority (MFA).” **(Bank of Alexandria, 2012)**

Although the Egyptian government is working hard towards reforming this market yet, almost all its initiatives is towards supplying units rather than refining and tuning the housing system in general.

The government built or subsidized a huge number of units during the past 25 years where in total it contributed to 36% of all formal housing units with a total cost of EGP 26.4 billion where the lands that have been utilized to build these units are at remote peripheral locations. On the other hand, the private sector is mainly focus on providing high end units for the market, nevertheless, that there have been few attempts from the private sector to provide affordable housing units. **(World Bank, 2008) (Hassanien, Mohamed, 2008)**

1.4 Before the Mortgage Law

As per *Hassaien and El Barkouky* after conducting thorough interviews with various real estate experts and developers in Egypt they have arrived to the conclusion in terms of the Egyptian market condition before introducing the Mortgage Law (**Hassanien, Mohamed, 2008**):

- Before the introducing the idea of the Mortgage Law in Egypt, the market was poorly developed and suffered real weakness. There were only three specialized entities that worked with real estate finance either as their core business or part of it. Aside from these three cases all other lending financial institutions had almost to do nothing with housing finance.
- The majority of housing banking was practically financing contractors and developers exclusively where a very small portion of them used to procure loans to home buyers.
- The case was generally that developers finance the purchases of the new properties (houses) where various installment arrangements with various interest rates up to 20% while paying at least 30-40% in advance were made available to home buyers.
- Almost all developers depend on post-dated checks and termination clauses to ensure the payment of the installment where these practices never insure the money where it is meant to be as a threat of penalization to the home buyer in case s/he defaulted. The main reason behind such practices is that there is clear or concise foreclosure law that protects the lenders' rights and provides any kind of insurance that the borrowers shall repay the due amount.

Due to the aforementioned factors and many others, the majority of potential Egyptian homebuyers are not able to attain a proper source of financing for their homes and accordingly, real estate transactions have become weaker although it might seem flourishing. (**Weiss, Post, Makary, 2002**) (**Boleat, 2003**)

Although experts recommended that a decent and fair 14% interest for a mortgage rate is adequate to the Egyptian housing market, yet the market kept going on an average of 20%. (**Weiss, Post, Makary, 2002**).

1.5 The Egyptian Mortgage Attempt

As per the Egyptian Financial Serviced Authority (EFSA), mortgage in Egypt is defined as follows: "According to the Law, mortgage finance is interpreted as a method for financing the purchase, construction, restoration and/or development of houses, administrative units, service foundations and any buildings designated for practicing trade". Although the definition is broad and includes various financial services, yet the only a small portion of these services are into effect.

According to the EFSA, Egypt has gone through a long and tedious road to establish a solid foundation for the housing finance through several legislative and financial restructures. Although the pace of progress has been steady and relatively slow, yet substantial changes have been made into effect.

As per the EFSA, the following is a brief summary of the major milestones towards achieving a robust housing finance in Egypt:

- **2001:** Issuance of the Mortgage finance Law No. 140.
- **2003:** The establishment of a mortgage finance subsidy and guarantee fund which is now under the EFSA control.
- **2005:** Launch of the first of the reform program for non-banking financial services sector
- **2005:** Amending the Executive Regulations of Mortgage Finance Law No. 148 for 2001
- **2006:** Establishing The Egyptian Mortgage Refinance Company (EMRC)
- **2006:** Reducing the real estate registration charges to be LE 2000 at maximum, by virtue of Minister of Justice Decree No. 5424 for 2006.
- **2008:** Expanding the beneficiaries' base of fund subsidies by raising the maximum limit of monthly income of subsidy-entitled clients to LE 1750 per month for singles and LE 2500 per month for families.
- **2009:** Launch of the second phase of the same program of which one of the main outcomes was Issuing mortgage refinance controls and setting the regulatory framework required for the Real Estate Investment Trusts (REITs)
- **2014:** Launch of the CBE initiative for financing low and middle income housing reducing the lending rates to as low as 7.5% for low income housing.

As was aforementioned Egypt attempt on housing finance has been genuine, however, there are still major issues that impede the development of the housing finance.

As per Boleat, the general approach to regulation public policy on financial regulation should have three broad objectives:

- To ensure the financial soundness of institutions.
- To protect the public.
- To develop the market. **(Boleat, 2001)**

Egypt has been partially successful in attaining the above three requirements where it faces real impediments when it comes to framing an effective housing finance system due the various reasons inflicted from the existence of much informal economic activity which by turns inflicts the following:

- The property valuation function may not be well developed.
- Income may not be easily verifiable.
- Neither lenders nor borrowers have a track record.
- There is no reliable aggregate data.

The aforementioned reasons poses real inhibitions where an overall economic structure is needed to pave the road towards an effective model of housing finance.

As suggested by Boleat, the government can adopt a transitional techniques to temporary mitigate the effect of the above issues.

- Using international data of similar emerging markets where it is available

- Encouraging the development of a valuing profession through various incentive systems
- Working with other parts of government to secure at least a common understanding of how mortgage security can be realized.
- Taking responsibility for developing a database of housing information.
- Adopting mortgage insurance. **(Boleat, 2001)**

Through the upcoming section we will go through the major aspects that impede the development of mortgage market in Egypt.

1.6 Issues with Egyptian Mortgage Practice

In the early 2000's, the establishment of a clear framework for the housing finance in Egypt became a must. The need to legislate an adequate law to govern the housing finance operation emerged from the fact that the market was too sluggish especially the medium/low end housing units and there a strong eagerness from the government to push forward the economy through enhancing various sectors including the housing sector due to the fact that it has massive socio-economic impact upon Egypt's overall economic health.

Accordingly, the Real Estate Finance Law has been issued in 2001. Although issuing this law was a real turning point in the government approach towards the housing sector, yet many issues remain unsolved which negatively affects the expected outcome. Through the following section we will go through the majors drawbacks and its impact on the overall housing finance operation.

Despite the government diligence and perseverance to entrench the housing finance as has been shown in the timeline presented in the previous section, both the size and the growth rate of the mortgage finance market, attests that the majors challenges facing this form of finance has not been resolved or even tackled properly.

El-Barkouky, Nasr, Hassnien and Mostafa have attempted to de-cipher these issues in their papers "***Suggested Mortgage Model in Egypt***", "***Affordable Mortgage in Egypt - Prospects and Challenges***", "***The Egyptian Mortgage Practice***" and "***The Mortgage Market in Egypt - Barriers and Recommendations to Availability of Housing Finance***" through conducting various literature reviews and a comparison between the industry in Egypt and its counterpart in the united States and Malaysia.

The aforementioned authors have dwelled on the issues facing the housing finance in Egypt and depicted the various forms of hindrance where some on the have presented viable solutions for these issues. **(Hassanien, Amr, Mohamed, 2009) (Sahar, 2009)**

The following is a summary of the major issues facing the housing finance in Egypt where it will be followed by an elaboration on each.

1.7 Housing Finance Issues and Challenges

- **Loan Underwriting standards:** Lack of standard underwriting guidelines
- **Borrowers Credit Worthiness:** Lack of proper borrowers credit rating
- **Mortgage Brokers and Real Estate Agents:** Absence of qualified brokers and real estate agents
- **Real estate Appraisals:** Absence of standards and qualification for real estate valuation
- **Securitization:** The non-existence of Egyptian mortgage secondary market
- **Property Registration and Land Titles:** weak home ownership, and inefficient registration procedure
- **Credit Enhancement via Insurance:** Lack of credit enhancement tools and the absence of loan insurance.
- **Mortgage Lending Rate:** high mortgage interest rates and absence of variable rate mortgage instruments.
- **Low Income Borrowers:** loose definition of the different sectors of home buyers.
- **Foreclosure:** unproven methodology of foreclosure action.

At the first glance at the EFSA website, one would take the impression that all of the above issues have been resolved. Indeed all of them were tackled but not to the point of a conclusive resolution. But even more than that the problem lies in the government's approach, which is characterized by a focus on the supply side rather than the demand. **(Hassanien, El Barkouky, 2007)**

1.7.1 The lack of Standard Underwriting Guidelines

This problem has been strongly highlighted in almost all literatures. One of the dominant and overruling criteria is the installment payment ratio set at 40% of the individual income as the main eligibility criteria. In addition, the other deal breaker criterion is the presence of a sound collateral by definition that would be the property financed. However the EFSA website notes that as part of the two staged reform program this problem has been handled by "setting the general rules and controls that regulate market dealings in accordance with the highest international practices and pursuant to the recommendations given by Basel-2 Conference, as well as unifying all the procedures used for calculating the schedules of debt amortization and finance installments" yet this seems to be more of a generic statement with no real implementation on ground. This stumbles many mortgage finance companies into two main options where either they be too loose until problems starts to emerge or become conservative with a strict and tightening processes from the start. Eventually the end result is complicating the process even further.

1.7.2 Lack of Borrowers Proper Credit Rating

Even though a credit rating agency has been established and the I-Score system exist, yet the system is handicapped as the majority of Egyptians do not have a bank account and thus no credit history can be verified nor proper income sources evidence can be secured.

1.7.3 Lack of Qualified Brokers and Real Estate Agent

Hassanein and El Barkouky note that there is a minimal number of qualified and professionally trained mortgage brokers, even though the government statement would imply action has been taken that should solve the problem. In addition, EFSA clearly mentioned that they have developed *“the regulations and controls whereby licenses are granted to companies for practicing mortgage finance and to the competent mortgage finance experts, such as intermediaries, agents and appraisers”*. **(Hassanein and El Barkouky, 2003)**

This problem is a real where the current market isn't lucrative enough to attract trained appraisers and agents where this leaves the market to amateurs and nonprofessionals. In addition, the potential home buyer perception with regards to brokers and agents is that they simply add no value and doesn't contribute to the process.

In terms of the actual role that they should inspect the property and verify its adequacy, clients have low expectations in that regard and they expect that these agents will do nothing but add more complexity to the process.

1.7.4 Absence of Standards and Qualification for Real Estate Valuations

This problem is among the major issues that devastates the housing market in Egypt. The absence of proper guiding rules on which the property is being valued allows everyone to have his/her say where debates and incorrect valuations methods are continuously being embraced. The problem adds complexity to the process severely. Although the Egyptian government statements imply resolution but facts on the ground remain as is.

1.7.5 Absence of Egyptian Mortgage Secondary Market

Definitely valid but the main issue is that there is no primary market to have a secondary one that is to say of adequate size, what's happening now is the creation of a secondary market for developers real estate loans because they have scale. Again when we investigated government statement you would read statements about the formation of a mortgage refinance company and the various regulations devised to govern that matter yet the facts on the ground tell you different story.

This point is very critical however because it holds one of the most important keys to resolving the mortgage issues in Egypt which is financing property under construction that even though it is allowed by the mortgage law, it is forbidden in practice by the Central Bank, given the fact that banks are currently the main source of finance in absence of a secondary market.

This prevent mortgage companies from tapping into the most active segment of the real estate market through the mega developers who are currently the main source of finance to clients and the main source of the organized growth of the real estate market. It also restricts mortgage finance to the secondary real estate market, which suffered clearly through the recent years of economic slowdown. Most of the developers would welcome this option to free up cash.

However the main obstacle for mortgage finance companies would be the completion or execution risk.

1.7.6 Weak home ownership and inefficient registration procedure

It various literatures it has been well noted that weak home ownership in Egypt and an inefficient and high cost registration procedure are one of the major impediments.

As has been cited in the American Chamber of Commerce that noted that home ownership in Egypt was enjoyed by only 10% of the population, and in our view this is more of a side effect rather than a cause of the problem. In addition, the cost of registration is around 12% and that the steps taken by the Egyptian government have reduced it to a claimed 3.5% and an actual of 4.5%, Yet the EFSA website notes *“Reducing the real estate registration charges to be LE 2000 at maximum, by virtue of Minister of Justice Decree No. 5424 for 2006”*.

However, it should be noted that this was prior to the referenced paper meaning that this suggests that the actual situation is different than what the government states.

1.7.7 Lack of Credit Enhancement Tools

While the government reaffirmed its solution to this problem as part of its regulatory and institutional reforms through the provision of insurance that covers the assets under mortgage which already existed in the Egyptian insurance market.

What is meant here is rather the untypical type of insurance like employment insurance policies, credit insurance institutions for mortgage bonds which are still do not exist.

1.7.8 High Mortgage Interest Rates and Absence of Variable Rate Mortgage Instruments

Initially when the government brought financial experts to suggest a lending rate in 2002 they used the lending rate used by developers which was 20% as a benchmark and suggested a rate of 14% to be adopted by the mortgage rate which was adopted later. However, this was a high rate compared to other countries. It has to be well noted that developers used that rate for properties under construction which was significantly less expensive than delivered properties and accordingly it was accepted by the clients because the monetary installment seemed reasonable, while the fact of the matter is that the mortgage rate will only be used for in the secondary which already are significantly more expensive. The implied margin is around 4% above CBE rate while versus the US it is only 1.5 to 2% and 2.5% in Malaysia.

1.7.9 Incorrect Definition of Low Income Home Buyer

The importance of this point comes from the housing shortage problem in Egypt, and thus the huge demand that lies in that market segment. Consequently, in addition to the social aspect, the potential that lies in the scale of the market if materialized would have a positive effect that would surpass the mortgage industry to the entire economy.

The perception of the study by Hassanein and El Barkouky that there is an incorrect definition lies in the discrepancy between the monetary limit set by the definition of an income less than EGP 9000 per individual to be recognized as low income candidate versus a study by

Weis, Post, and Markery that noted that around 65% of the total families in Egypt has an annual income of less than EGP 20,000 thus we might be excluding a sizable portion of the market. The other issue lies with the fact that there is rule that the installment should exceed 25% of the annual income. If you combine both facts along with the rise of price of the construction materials, the result is that most of the target segment would not be eligible as the annual installments will most definitely be more than 25% of their annual income, unless they pay a very high down payment, which contradicts with the fact that they are low. There was an attempt to remedy this fact by government subsidy for the down payment. This approach helped but it did not solve the problem.

1.7.10 Unproven Methodology of Foreclosure Action

One more factor that leads to an increase of the risk for the mortgage companies is basically the fact that the companies cannot reacquire the property in case of default. This is will inevitably lead to either higher cost for the client in terms of lending rate or asking for more collateral which by turn will contribute to less potential clients.

Although apparently that the government has taken action in terms of formulating all the required legislation changes, the inefficiency of the justice system as a whole and the political and cultural sensitivities when it comes to eviction notices and the like are quite an issue. Accordingly it is not just a problem of the mortgage industry but rather a problem of law enforcement.

1.7.11 The Mortgage Market and its Size

As per Hassanien and El Barkouky *"In June 2003, the first mortgage company in Egypt (Tameer Co.) was founded through a partnership between eleven of Egypt's biggest companies in the fields of real estate, banking, and insurance, with a combined total capital of 500 million EGP and a paid in capital of 250 EGP. The company launched its activities in March 2004. The first mortgage company offers financing up to 85% of a property's value, at an interest rate of 14%, payable over a maximum of 20 years through monthly installments of 40% of the borrower's income. Further, a broker certified from the Mortgage Finance Authority (MFA) could be consulted to affirm that all the fundamental requirements in the house are present."* **(Hassanien and El Barkouky, 2003)**

Tameer Co. offered real competitive and economic terms to borrowers with annual income less than EGP 9,000 whereby a longer mortgage period was provided up to 30 years and an annual government subsidized interest of 6%. In addition, the monthly installments went as low as 25% and below of the monthly income of the borrower. These terms were to be applied to borrowers who are seeking units of a space of 80 m² or less. **(Hassanien and El Barkouky, 2009)**

In May 2004, a second Egyptian mortgage company started venturing into the housing finance market. It focused its operation for the units in Greater Cairo and new urban areas. The new company mainly focused and targeted middle-income borrowers applying for housing units of values above 100,000 EGP. The cost of finance by the second company equals 14%, and

the loan is to be paid over 10 years through monthly installments of 35% of the borrower's income. The loan-to-value ratio is a maximum of 75%. **(Hassanien and El Barkouky, 2009)**

Although since early 1990's Egypt had a growing emphasis over providing housing yet there has been always a supply/demand problem due to the fact that the units supplied targeting medium and high-end units are in excess where on the contrary the demand for low-income units is high and the supply is quite below the required target. This can be easily attributed to the lack of an efficient housing finance market whereby there are multiple financing options that could accommodate the various sectors of the society.

In late 1990's, Egypt was ranked as the 33rd country in the global construction market. However, due to the recession in the real estate market, Egypt took a dive. In the beginning of 2000's another housing market deterioration took place due to various economic factors and many financial impediments that used to exist back then in terms of loan repayment and high interest rates. **(Hassanien and El Barkouky, 2009)**

Accordingly, low and medium income potential property buyers did not have the enough purchase power to own a property. Consequently, an inevitable need merged to rectify the housing finance market and come up with a new framework that would be able to include the various sectors of the society and booth the purchasing power of those targeting the low and medium properties.

Looking at the efforts noted above one would be disappointed to see that with 14 mortgage companies and after 13 years from issuing the law, the industry only contributes less 0.2% of the GDP at 2.3 billion EGP of outstanding loans by mortgage companies. But the more serious note is that looking at the adjacent chart one can see that it is actually shrinking. Some of the companies have closed 0 deals in Q4 2014. The analysis of this performance is discussed in the coming section.



Figure 2: Development of Outstanding Mortgage Loans

Before we list the market players, it is important to note that only 9 of the 14 licensed companies are active and the adjacent table gives an account of their small level of activity. EFSA is assigned to supervise mortgage finance activities in which the following main market players are involved:

- Mortgage finance companies.
- The Egyptian Mortgage Refinance Company (EMRC).
- Securitization authorities.
- Mortgage finance intermediaries.
- Mortgage finance appraisers.
- Mortgage finance agents
- Auditors

- The credit bureaus and insurance companies, which act as parties complementing the mortgage finance process.

1.8 Factors Affecting the Willingness to Acquire a Mortgage Loan

The following paragraphs includes an overview of what could be considered as the drivers of the willingness of borrowers to acquire a mortgage loan where this overview has been driven from the literature review, interviews, personal due diligence and interest in the real estate market in Egypt and brainstorming with various interested personnel.

Quality of borrower

Lenders evaluate the credit-worthiness of the borrower and his/her ability to pay back a loan. A borrower with low credit score, fewer assets, recent employment or self-employment, or a fragmented credit history will pay a higher rate of interest than a borrower that has the opposite profile.

The quality of the borrower entitles him to different interest rates and various down payment sizes depending on the borrower's assessment.

Lenders mainly inspect six aspects of the borrowers' records among other variables to assess his/her mortgage worthiness as follows:

Credit Report

This is the major factor that affects the borrower's mortgage worthiness. It involves assessing his overall ability to pay back the mortgage.

Credit Cards History

The trends of the borrower's credit card transactions have an impact over his/her assessment. Failing to pay on due dates few times could jeopardize the borrower's worthiness.

Outstanding Debts

Having outstanding debts affects greatly the borrower's position when applying for a mortgage. Lenders become highly concerned with the ability of the borrower to pay back the mortgage in addition to his/her other debts.

Employment Status

Mortgage lenders continuously are looking for people with steady, reliable employment history; changing jobs frequently, being with no job for extensive periods or being self-employed are variables that are being taken into consideration while assessing the borrower's worthiness.

Other Assets

Having other assets strength the position of the borrower and entitles him to better mortgage deal.

Down Payment and Other Costs

Your credit history will play a large part in the amount of the down payment you will have to provide. The better your credit history is, the lower the down payment you are entitled to.

Having enough ready funds will easily allow borrower's to get an advance points in the assessment. Enough funds mean the borrower's ability to pay a down payment and other associated costs.

We can summarize the factors affecting the willingness to acquire a mortgage loan can be classified into the following:

- Demographic
- Property related
- Borrowers' financials related

Demographic Factors

- Gender
- Monthly income
- Age group
- Marital status
- Employment status
- Having
- The number of children
- The industry the borrower is working within

Property related Factors

- Property type
- Property size
- The district in which the borrower wants to acquire a property
- Having another property
- The source from which the borrower is going to acquire the property

Financial Related Factors

- The debt-to-income ratio
- The terms of payment
- Borrower paying other installments

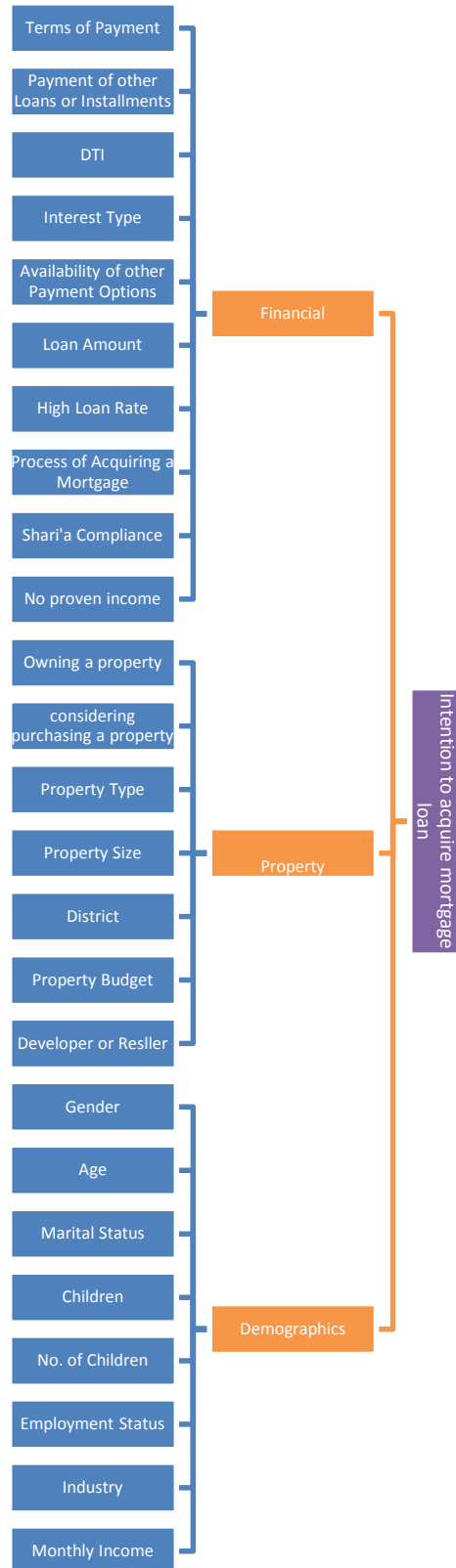


Figure 3: Factors Affecting Mortgage Demand

CHAPTER II: LITRATUREURE REVIEW

Mortgage finance in Egypt as has been previously cited is not a famous financial tool that borrowers in Egypt depend on to fund their property purchases.

There are many factors that contribute to the mere presence of mortgage loans in Egypt. Some of these factors are attributed to the traits of borrowers and the various personal variables that affect their decision where the other factors are attributed to legislative and economic/financial constraints stipulated by the government.

Through our literature review we will present both aspects where in our empirical work we will place more emphasis over some factors that govern the willingness of borrowers to acquire a mortgage loan.

2.1 Mortgage Loan Demand Shapers

As per Magri in her paper “Italian Households’ Debt: Determinants of Demand and Supply”, in theory there are many factors that affect the demand of mortgage borrowers such as age, education, net wealth or as he calls it “expected income profile” and interest rate. **(Magri,2002).**

Magri stated that age is one of the most important factors that affects mortgage: *“Age is one of the most important and there is a fairly wide consensus about its sign, both on theoretical and empirical grounds. Young households, with expectations of growing income and a high marginal utility of consumption, due both to the likely modest level of current income and to the needs connected with creating a new family, should express a high demand for debt (increasing frequency and size), which is likely to decrease beyond a certain age threshold.”* **(Magari,2002)**

Magri postulates that the relation between of acquiring a mortgage loan and the income is fuzzy and uncertain: *“As regards the relationship with current income, there exists uncertainty about its sign, as in the case of net wealth. When current income increases, the probability and size of debt might diminish. However, at low and intermediate levels of income, for different reasons the probability of demanding a debt may also increase when income rises. First, at low levels of income the marginal utility of consumption is very high and an increase in earnings may translate into a rise in expenditure and hence into a greater demand for loans. Secondly, very low levels of income are normally associated with greater income variability, which tends to reduce the probability of demand. Finally, an increase in income, especially near the median of the income distribution, raises the probability that the household can more easily satisfy down-payment conditions. Thus, the sign of the overall income effect is ambiguous.”* **(Magari,2002)**

Magari stated that although there is could be a plausible relation between income and the mortgage demand, yet due variable other factors such as the expenditure level the relation between these two is uncertain and ambiguous.

Magari keeps searching for other factors that affect mortgage demand where she presents education as one of these factors whereby she stated that: *“Education, beyond reflecting the potential expansion of income, is also likely to capture some aspects linked to the entry costs in the debt market. Households with a high school diploma are likely to bear lower entry costs, since they face fewer difficulties in collecting and evaluating the information needed for the decision to contract a loan. Entry costs can be affected by other variables as well, such as residence in very small municipalities, which is generally correlated with lower information on financial instruments.”* (Magari,2002)

Magari sees that better education leads to better assessment of loan demand, hence this implies less default rate.(Magari,2002)

Debelle in his paper **“Macroeconomic Implications of Rising Household Debt”** used the life-cycle/permanent-income model of Modigliani (1986) and Friedman (1957) to show the effect of borrowers’ income and debt interest rate on mortgage demand (consumption).

Debelle states that *“The rise in household debt that has occurred over the past two decades reflects the response of households to lower interest rates and an easing of liquidity constraints. This is likely to have allowed households to achieve a more desirable path for lifetime consumption. However, the increased has heightened the sensitivity of the household sector to changes in interest rates, income and asset prices. This is particularly the case in countries with mainly variable-rate mortgages, where the household sector bears the risk of fluctuations in policy interest rates. In countries with more fixed-rate mortgages, the household sector is shielded from the direct effects of policy interest rate changes, with this risk being borne instead by the end-holder of the securitised mortgage. Hence the macroeconomic effects of greater indebtedness in these countries will be somewhat muted. If central banks factor these larger effects into their interest rate decisions, it is possible that the amplitude of policy interest rate cycles will be lower than in the past”* (Debelle,2004)

It can be inferred easily from Debelle postulation that interest rate and income are almost the major factors affecting the mortgage demand. The interest rate of mortgage debts is a very powerful tool that the CBE can manipulate and lower to encourage borrowers’ to go for mortgage loans. It can inferred from Debelle conclusions that a variable interest rate is an unfavorable type in Egypt, at least as a start, given that the mortgage borrowers might feel insecure and refrain from acquiring a mortgage given the high risk associated.

In his comparative study of mortgage debt in his paper **“The Demand and Supply for Household Debt: A Cross Country Comparison”**, Crook proved empirically that there is an effect of various demographics such as gender, age, marital status, education and income on mortgage debt demand. He elaborated on this as follows:

“ The incidence of mortgage holdings is greater in the US, Netherlands, Spain and the UK than in Australasia and Japan, with Italy have a lower incidence still. The proportion of households with consumer loans follows a broadly similar pattern, although the UK falls into the low proportion category. Debt holdings by age follow the life cycle pattern in all of the countries observed, although the age range where the incidence and volume of debt peaks differ between countries. In Canada the incidence peaks at an earlier age than in the US. Italy follows, with incidence reaching a maximum latest in the Netherlands and Japan. The incidence decreases more rapidly as age increases in Italy than in the US. Unlike other countries, the incidence of holding debt decreases at very high income deciles in Italy. “For instance the effect of current labour income on demand has been found to have positive and negative effects in each of the two countries. Plausible explanations can be given to justify each finding. The effects of net wealth and of education both appear to be positive.” “Greater protection in the event of bankruptcy increases the demand for debt for those in the top half of the wealth distribution in the US. In Italy demand is greater in regions with a more efficient judicial system which probably lowers the costs of borrowing.” (Crook,2006)

Crook’s findings comes to emphasize the major role of income, age and interest rate along with other variables in shaping the demand of the household debt. The impact of each variable has varied in each country he studied where although for instance the age can have a negative and positive in two different countries yet both results are reasonable and have plausible justification.

As per Kuznetsovski *“Most financial theories are developed based on assumptions of market efficiency and consumers' rational behavior. Rational choice theory postulates that consumers, when given multiple choices, will choose the best and optimal option based on their own set of preferences and constraints. However, in the real world, we rarely, if ever, observe the full set of preferences and/or constraints, which sometimes make decisions appear contradictory, or even irrational. (Kuznetsovski, 2014)*

In Egypt, enumerating all factors or even the majority of then is practically impossible given the various multidimensional aspects governing their preferences and choices where even among the variables manipulating their choices there are sophisticated entanglement that makes the process of discovering the real drivers a tedious process.

Although there is a relatively large demand for regular loans to fund property purchases in Egypt, yet it is not the case for mortgage loans. There is a vivid lack of knowledge among potential home buyers in Egypt regarding mortgage loans. This phenomenon is not only in Egypt where even in developed economies such as US this problem does exist.

As per Lino *“ borrowers adjust expected future expenses, income, and mortgage payments in some way that mortgage payment difficulties are not expected to arise. Findings also imply*

that consumer education programs designed to help borrowers make a mortgage choice are needed. These programs should focus on estimating the expected financial cost of a mortgage. Many borrowers, regardless of educational level, could not determine which mortgage type had the higher financial cost. Borrowers need to become more knowledgeable about the financial cost aspect of a mortgage choice.” (Lino, 1992)

As per Colton, "Much of the existing literature on homeownership assumes that financial markets work well enough to allow households to translate permanent income into effective demand. However, transaction costs, imperfections, and uncertainties all constrain the markets' operation so that people are often forced to choose a quantity of housing stock that diverges from their desired consumption level. Instead of being able to borrow against future income for the down payment or to make monthly payments in a pattern that matches future income, young families in their early years may be constrained from purchasing the size house they desire, and older households may remain in homes larger than they need. In light of these market imperfections, housing and tenure decisions depend not only on permanent income and the relative price of housing services, but also on such mortgage parameters as monthly payment patterns, down payment, and rate of equity accumulation. Models of the demand for housing and homeownership described in the existing literature do not include these parameters of mortgage finance. Mortgage terms are important factors in housing consumption and investment decisions. Because the standard mortgage no longer seems appropriate for all households under all economic conditions, the extent to which alternative mortgage instruments meet the requirements and preferences of different segments of the market becomes an important issue.” (Colton, 1979)

Colton's has significantly opened the door towards considering new variables that should be factored in to properly assess the mortgage loan market and the real estate market at large. In our study we will focus on few attributes that Colton presented with respect to the Egyptian case.

Colton was able to capitalize on the issue and present a concise conclusion through stating the following: *“Clearly, the standard mortgage is no longer appropriate for all households under all economic conditions. Different mortgage instruments appeal to different segments of the market, and the availability of a range of instruments is necessary to meet the needs of both borrowers and lenders. This was strongly confirmed by our study's finding that consumers favor choice in selecting mortgage features and instruments.” (Colton, 1979)*

He added that *“An overwhelming majority of the respondents indicated that they would prefer to choose among alternatives rather than to having only the standard mortgage.” (Colton, 1979)*

In Colton's paper he presented one of the major issues that currently face Egypt with respect to mortgage finance which is lack of knowledge regarding mortgage where he framed it as

follows: *“As we found in our study, the attitudes of borrowers interviewed over the telephone changed when they were presented with the additional information contained in our mail survey. With appropriate education and safeguards most consumers will have enough background to make a wise and prudent choice.” (Colton, 1979)*

Lin and Taylor (2011) in their paper have highlighted the effect of various borrowers' attributes with regards to mortgage loan default probability. The results of this paper serve the lenders to properly assess the proper segment and characteristics of borrowers who can sustain a regular payback of a mortgage loan. Banks and mortgage companies in Egypt should be fully aware of the various dimensions and attributes of borrowers to properly tailor mortgage loans to the borrowers' abilities and features. Lin and Taylor presented a good study to these aspects as follows: *“The paper explores the variables affecting the mortgage loan default of the borrower by using the data from the nationwide mortgage loan cases of the case financial institution. These variables are divided into three dimensions: the borrower's attributes, loan contract contents, and collateral characteristics, which are composed of 12 independent variables.*

The empirical results show that, firstly, regarding the borrower's attributes, banks should take a more severe control on male borrowers' loan cases since the default probability of male borrowers is higher than that of female ones. The borrower's marital status and age are not significantly correlated with the mortgage loan default. The lower the education degree of the borrower is, the higher the default probability of the borrower becomes. Banks are suggested to reduce the borrowers with a lower education degree in order to reduce the default risk. The higher the job position of the borrower is, the higher the default probability of the borrower becomes. Banks are suggested to orient the loan customers to the general salaried ones. If the regional codes of the borrower's permanent registered residence and present residence are different, the default probability of the borrower will be higher. The default probability of the borrower with a family member as the guarantor is inferior to that of the borrower with a friend or a colleague as the guarantor. It is suggested to reduce the borrowers who do not have family members as the guarantors.

Secondly, as for the loan contract contents, the borrower's loan amount and default probability are significantly negatively correlated. This implies that the lower the loan amount is, the higher the default probability becomes. Therefore, it is suggested to avoid the loan case with a lower amount since the collateral of this kind of loan case is a small house or studio, which has a lower level of loan protection and is more difficult for resale. The LTV ratio is significantly positively correlated with the default probability. The higher the percentage of the loan is, the higher the default probability becomes. Therefore, the paper suggests that banks should avoid the customers who have insufficient funds and would like to borrow a higher LTV ratio from banks as much as possible. The nature of loan case is insignificantly positively correlated with the mortgage loan default, indicating that there is no significant correlation between them.

Thirdly, with respect to the collateral characteristics, if the borrower's collateral is not for the use of his own residence, the default probability will be higher. This result is consistent with the fact that banks currently focus on the borrowers whose collateral is for the use of their

own residences. The default probability of the borrower with the collateral located in a less urbanized region is higher than that of the borrower with the collateral located in a highly urbanized region. Currently, the case financial institution focuses on the borrowers with the collateral located in the most urbanized region A and second most urbanized region B, but avoids the borrowers with the collateral located in the less urbanized region such as D and E in order to reduce the default risk.

The above results explain that the significant variables impacting the mortgage loan default are not limited to the relevant qualifications of the borrower or of the guarantor. The information such as the use status of the collateral, the located region of the collateral, and the macroeconomic environment are also important factors to be considered. Therefore, from the perspective of the credit cycle, the case financial institution regards the front-end product design and the significant variables affecting the mortgage loan default as the basis for the customer segmentation and the product pricing. Salesmen should accurately obtain the basic information of borrowers while undertaking mortgage loans. The credit concept and sensitivity of the credit staff should be adjusted in accordance with the changes of the macroeconomic environment and the industry. Moreover, the use of the model in the paper should be strengthened to establish a standardized model of credit evaluation so that the mortgage loan business can become more efficient and systemized.” (Lin & Taylor, 2001)

The results that Lin and Taylor presented are very important and significant ones where the Egyptian government along with the lenders (banks, mortgage companies, financial institutions) should be aware of in order not to roll the mortgage market and then discover huge number of defaults taking place.

Among the major issues that confront the mortgage market in Egypt in credit scoring and the ability to prove income. Credit scoring depends on multiple standard variables, yet due the nature of the Egyptian society the current credit scoring techniques are not efficient due to various reasons among which is the inability of many borrowers to prove their income.

Bee, Seng and Nor suggest in their paper to adopt data mining techniques which involves collecting massive amount of data where then proper modeling and inference can be built upon. Hence better scoring methodologies can be adopted which by turn will pave the road towards better mortgage market dynamics. As Bee, Seng and Nor states “*Credit scoring model have been developed by banks and researchers to improve the process of assessing credit worthiness during the credit evaluation process. The objective of credit scoring models is to assign credit risk to either a “good risk” group that is likely to repay financial obligation or a “bad risk” group who has high possibility of defaulting on the financial obligation. Construction of credit scoring models requires data mining techniques.* Using historical data on payments, demographic characteristics and statistical techniques, credit scoring models can help identify the important demographic characteristics related to credit risk and provide a score for each customer.” (Bee, Seng and Nor, 2011)

Bee, Seng and Nor suggest that in many cases it might be difficult to retrieve proper historical data where then it would be good if researchers or lenders can adopt unorthodox methods to retrieve the required data.

“Due to privacy concerns and unavailability of real financial data from banks this study applies the credit scoring techniques using data of payment history of members from a recreational club. The club has been facing a problem of rising number in defaulters in their monthly club subscription payments. The management would like to have a model which they can deploy to identify potential defaulters.” (Bee, Seng and Nor, 2011)

CHAPTER III: METHODOLOGY AND DATA

3.1 Research Testing Hypothesis

We argue that age, property type, employment status, interest rate type, loan terms, monthly income, marital status and children count, paying other loans, allocated budget to purchase a property and the property size have an impact over the willingness to acquire a mortgage loan.

3.2 Research Methodology

A survey was designed to test the assumed hypothesis. Responses were collected and the findings will be discussed in detail in the upcoming sections.

3.3 Model

Based on the conducted research and the literature review investigating the willingness of the potential real estate customers to use mortgage loans to finance their property purchase transaction in particular, many factors drive a consumer's intention to make the decision as shown in the below equation.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + \varepsilon$$

Y: Willingness to acquire mortgage loan.

X_i: represent the binary regressors for each of the above mentioned variables included in the hypothesis.

A transformation took place over all variables to change them into binary values where a probit regression has been run against in accordance with the above equation.

In our model we will be testing the effect of various financial aspects, property attributes and demographics on the willingness of potential property owners to acquire mortgage loans in Egypt. We expect that the results will shed some light over the real issues that impede the development of the mortgage market in Egypt due to borrowers' issues such as income, loan duration and interest rate.

In this research we would like to test the effect of various demographic, property related and borrowers' financials over the willingness to acquire a mortgage loan.

3.4 DATA

3.4.1 Questionnaire

A questionnaire has been designed and distributed to answer the aforementioned listed hypothesis. Please see for the list of questions and the results statistics.

3.4.2 Sampling Plan

3.4.2.1 Type of Sample

The total population of our sample is all individuals in Egypt whereas our study population is the A/B/C class individuals from various backgrounds, variant marital statuses, within various age groups of 21 years plus and variant employment statuses.

Our sample is around 200 individual representing our sample frame.

We have adopted the non-probability sampling model as our sampling method as we do not have a large database to draw our sample from.

We have used the Snowballing and Judgmental techniques where we asked our friends, colleagues, co-workers and family members to fill in the survey and forward the link to their acquaintances and whoever they deem fit to the survey.

The survey has been sent to them by mail or through other social media tools such as Facebook.

We also did few over-the-phone surveys for whom the email or other social media is an adequate form to solicit their opinion.

Judgment was applied during selecting the study population to ensure diversity and properly serve the intention of the research.

3.4.2.2 Sampling Unit

The sampling unit is individuals being addressed individually through e-mail, phone calls or other relevant social media.

3.4.2.3 Population Parameters

The parameters of the population are as follows:

- Income range
- Age groups
- Relationship Statuses
- Variant Industry
- Variant Employment Status
- Living in Egypt

3.4.2.4 Size of the sample

The sample size we expected to target is around 400 individuals where we are aiming at a 25-35% response rate. Consequently, it will be acceptable to have 100 or less responses.

3.4.2.5 How the sample size will be reached

We have reached the sample size through sending recurring emails to friends, colleagues, family members, co-workers and acquaintances -via email, other social media tools along with personal hand-in and phone surveys to reduce the non-sampling error.

In addition, further data refinement shall be applied to the sample to ensure its cohesiveness to the purpose of our research.

CHAPTER IV: RESULTS

The findings are divided into two parts; the first part includes the effect of various attributes such as demographics and financials on the willingness of potential borrowers to acquire a mortgage loan [Table 1]. The second part involves descriptive analysis of the results of the survey and summary for it.

4.1 Significance of various attributes with respect to the willingness of borrowers to acquire a loan

4.1.1 Gender

The gender factor came to be insignificant to the willingness to acquire a loan.

4.1.2 Monthly Income

The monthly income affects the willingness to acquire a mortgage loan where the groups of the sample with an income bracket of EGP 1,200-5,000 and EGP 10,000-25,000 are both willing to acquire a mortgage loan. Although there is a positive correlation between the other income brackets and the willingness to acquire a loan, yet it is not significant.

4.1.3 Property Size

There is no effect of the property size desired on the willingness to acquire a mortgage loan.

4.1.4 Age

The age is a significant factor in affecting the willingness of acquiring a mortgage loan where all age brackets including 21-30, 31-40, 41-50 and 51-60 came to be significant and positively correlated.

4.1.5 Paying Other Installments

The effect of currently paying installments isn't significant on the willingness to acquire a loan.

4.1.6 Property Type

The choice of an apartment, twin house, villa or a land as a preference doesn't affect the willingness of acquiring mortgage loan.

4.1.7 Currently Owning a Property

The relation between currently owning an existing property and the willingness to acquire a mortgage loan came to be negatively correlated where the relation came to be significant. This is a typical relation where usually some owning a current property will be less likely to acquire another property unless in some cases such as moving to a new property, purchasing a secondary property for investment purposes or store value as this is a common practice in Egypt.

4.1.8 Property Location

The relation between the property location (new district or old district) and the willingness to acquire a mortgage loan came to be insignificant.

This relation is plausible given the fact that the preference of a potential home buyer whether it is a new district or an old district will not affect his need to acquire a loan in case s/he needs it as an alternative of paying in cash or going through regular loan process.

In addition, given the significant units prices increases in new districts whereby the prices of these units came to be equal or even higher than the units within old districts.

4.1.9 Property Budget

The relation between the property budget of EGP 100,000-EGP 500,000 and the willingness to acquire a mortgage loan came to be insignificant. In fact this result reflects one of the core issues of mortgage finance in Egypt where the majority of units' prices are above EGP 500,000. The market supply mainly focuses on units with a value higher than 500K although the Egyptian market is in deep need for units within the range of 100-500K to serve low income potential buyers. In other words, survey responders who will be looking for a property with a budget less than 500K cannot accommodate the interest rate nor the overhead of the current mortgage loans.

The relation between the property budget of EGP 500,000-EGP 1,000,000 and the willingness to acquire a mortgage loan came to be significant and positively correlated where this means that the sample that looks into a property budget within this bracket are high likely to acquire a mortgage loan. This is justifiable also as within this budget range many units are available, yet

usually potential buyers looking for such property are a low/middle class type where usually they resort to loans as a way of funding these properties.

The relation between the property budget of EGP 1,000,000-EGP 2,000,000 and the willingness to acquire a mortgage loan came to be insignificant.

The relation between the property budget of EGP 2,000,000 and above the willingness to acquire a mortgage loan came to be insignificant.

4.1.10 Units Selling Source (Primary or Secondary Market)

The relation between the source of purchasing the property (primary market or secondary) and willingness to acquire a mortgage loan came to be insignificant.

This was an expected outcome given the fact that if a potential buyer is intending to purchase a property there won't be a significance on the willingness to acquire a loan given the fact that in either cases s/he would seek to acquire a loan.

4.1.11 Debt-to-Income (DTI)

The Debt-to-Income variable came to be insignificant with no impact on the willingness to acquire a loan. This result is also expected, since from a borrowers' perspective regardless of how much current amount of debt he has and given the fact that he is willing to purchase a property where he doesn't have enough funding so in all cases he if sees mortgage as option he would go after it in all cases. Even more, we can assume given the Egyptian culture and the unawareness of the risk of default factor, the more debt he has the more he would be willing to acquire a loan to purchase the potential property.

4.1.12 Marital Status

Being single as a marital status came to have an insignificant effect on the willingness to acquire a mortgage loan which is an expected result which require further investigation to better understand the underlying causes given the fact that singles will usually be more eager to acquire a mortgage loan. However, other factors should be factored in to better understand the reason of such result such as the age group of the sample for instance.

Being married as a marital status came to have a significant effect on the willingness to acquire a mortgage loan yet it was negatively correlated. This result is expected to a great extent given the cultural dimension that most people who are getting married should acquire a property beforehand. Consequently, married sample do already own a property whereby the majority might not be willing to acquire a loan to have a property at the moment.

Divorced came to be irrelevant due to non-accurate inconsistent data response.

4.1.13 Children Count

Having no children came to be significant but negatively correlated with the willingness to acquire a mortgage loan. This could be either that the responders are singles or they are newly married. This might be aligned with the results of the marital status presented before.

Having one or more children came to have a significant effect over the willingness to acquire a mortgage loan yet being negatively correlated.

Having three, four and five and above children came to have an insignificant effect over the willingness to acquire a mortgage loan.

4.1.14 Employment Status

Being full-time employed negatively affects the willingness to acquire a mortgage loan. Although this could have various interpretations yet extended examination regarding the result is needed to better understand the associated affecting factors.

Being part-time employed doesn't affect the willingness to acquire a mortgage loan.

Being not employed or retired doesn't affect the willingness to acquire a mortgage loan.

4.1.15 Industry Background

Finance, health care and education came to be significant and positively correlated to the willingness to acquire a mortgage loan.

For finance, one might postulate that given that people who work within this field they might be more aware than others of the mortgage loan merits. However, this could be easily negated through knowing that they should also know that mortgage loan in Egypt do have high interest rates and tedious processing cycle. Consequently, more research dedicated to this industry might be needed.

For health care and education, the results might be justifiable knowing that these two industries in the majority of cases are being underpaid whereby resorting to loans might be a favorable option to purchase a property.

Business support, telecommunication and transportation all came to have an insignificant effect over the willingness to acquire a mortgage loan.

4.1.16 Interest Rate Type

The fixed interest type and the mixed type (fixed for a term and then variable) came to be significant to the willingness to acquire a mortgage loan and positively correlated. This result is rational and reflects the natural trait of Egyptians who usually seek stability and refrain from

uncertainty yet they are willing to risk a little, through having a partial variable solution, in return of having better outcome.

4.1.17 Loan Terms

All loan terms came to have an insignificant effect over the willingness to acquire a mortgage loan except for the 1-3 years loan term where it was significant but negatively correlated. Although the 7-10 years loan term failed due to multicollinearity issue yet the results might still be indicative where the majority of borrowers could be more inclined to acquire more than 3 years loan still they don't want to acquire more than 10 years loan. These assumptions can be easily proven through the outcome of the descriptive analysis as depicted in **Table 1**.

4.2 Descriptive Analysis

80% of the respondents would like to acquire either an apartment or a twin house where 83% seek to have a property size of more than 100 m². In addition, more than 83% of the respondents would like to acquire a property within a new district such as New Cairo or El Sherooq.

25% of the respondents would like to acquire a property within the budget of 100-500k. Although this is a significant percentage yet the Egyptian real estate market does not serve this segment as it should be where we believe if this research has been extended to cover Upper Egypt governorates, then there would be substantial demand over low/medium income units.

85% percent of the respondents should their preference to acquire the property from the developer directly and not from secondary market. This result reflects the extended role of the developer as a lender in a sense.

Almost 65% of the respondents expressed their preference to have the loan terms between 4 to 10 years as an optimum loan term where this signifies that the Egyptian culture is more inclined towards typical loan terms and not to mortgage loan which can be up to 25 years. This could be attributed to the lack of knowledge of mortgage loan merits or the reluctance of potential borrowers to go through extended debt durations given the uncertainty the Egyptian economy entertains.

86% of the respondents expressed their willingness to pay a maximum of 30% of their income towards paying off a mortgage loans. This result aligns with the requirements of having a mortgage loan with a maximum of 40% DTI. Yet, due to the various financial and social pressures in Egypt, potential loan takers maybe willing to acquire more than this percentage without even calculating the risk of default or the repercussions of such desire. Consequently, unless there is a lucid, yet tolerable, governing framework for the assessment of potential borrowers, mortgage market won't flourish in Egypt.

Almost 60% of potential loan takers expressed their preference towards fixed interest rate loan rather than variable ones. This result still emphasizes the fact that Egyptians, and due the massive uncertainties in their lives, are more inclined towards more stable options with minimal risks.

CHAPTER V: CONCLUSIONS

Throughout this research we have arrived to some conclusions with regards to the mortgage finance market in Egypt. We will divide our conclusion into two parts where the first part is going to address our empirical work where the second part addresses the macro-dynamics affecting the market in Egypt.

First, through our study we have discovered that there are some variables that impact the willingness of potential home buyers to acquire mortgage loan in Egypt. These factors can be clustered into three main categories which are demographics, financials and property related variables.

The age, industry background, marital status, number of children and employment status were among the variables that we have studied and do have an impact over the willingness to acquire a mortgage loan in Egypt. In addition, we believe that an extended research could be followed to address each particular variable and its interdependency with other variables and the significance of these other variables on it.

The allocated budget by potential home buyers to purchase a property was one of the significant variables that do have an impact over the willingness to acquire a loan.

Interest type (fixed or variable), loan terms and loan usage were the variables that had a significant effect over the willingness to acquire a loan.

High mortgage loan rates and tedious process were the top two reasons why would potential home buyers refrain to acquire a mortgage loan.

Second, although there are tremendous efforts made by the government to establish the mortgage industry in Egypt yet it lacks focus and efficiency. We judge that by the industry performance so far in terms of the very low contribution to the GDP coupled with a decreasing growth rate despite the current small size. A lot of regulatory and institutional gaps remain to be addressed especially when compared to other markets.

Egypt should exercise the culture of learning from other countries experiences that have been through similar impediments so that the same mistakes are not repeated and that best practice can be built on. Careful due diligence is required to extract the main pillars and drivers of this market from robust markets such as the US along with other emerging market economies where a blend of both is required and customized to fit the Egyptian case.

Most of the efforts done by the Egyptian government to boost the mortgage market were done mostly on the regulatory reform and on the supply side constraints. However, the major issues are the cost to the client and the enforcement of law such as the foreclosure.

Although the Egyptian government's relentless effort to come up with a flawless mortgage law, yet still there are real impediments within the overall legislative side.

For example, even though the mortgage law allows financing of buildings under construction, yet in practice this cannot be done because the money supply for mortgage companies is sourced from banks which in turn are limited by the CBE regulation which prohibit financing of buildings under construction. A obvious solution is a more active secondary market, in addition Real estate Investment funds is an important tool to be utilized as an alternate source of funds other than banks which is not going to be constrained by the CBE regulations.

This regulation in turn prohibits mortgage companies from tapping into the most organized and actively growing segment of the market. This segment is dominated by large developers and master developers. And that is where the visible demand for organized real estate financing is. The main reason stated by the central bank is the execution or completion risk, which can be solved by the use of an escrow account and qualified real estate developers and projects to be financed under construction. The contradicting fact is that the central bank allows construction financing for the same projects and thus the risk to the financial system is still there, and using the checks from the same clients he would have provided the mortgage finance for as a collateral.

A flourishing housing finance market will positively contribute to deepening and broadening the Egyptian financial system generally. If a solid mortgage market was developed many of potential home buyers will use formal financial institutions as a resort to help them improve their housing position.

The need for financial stability is inevitable for mortgage finance to flourish simply because it necessarily involves long term loans, and making long term loans with minimal risk is an extremely tedious job for both lenders and borrowers when interest rates and inflation are high and volatile.

A final major note that all mortgage finance stakeholders must be highly confident that they are not at risk from future regulatory and political changes.

CHAPTER VI: RECOMMENDATIONS

As presented in the literature review, Egypt suffers many issues regarding the mortgage system. The majority of these issues lies within the stipulated financial and legal policies governing this system along with major lack of awareness of mortgage finance and its merit to both the borrowers and lenders in addition to the Egyptian economy as whole.

We believe that applying the following can help in boosting this market:

- Enhancing the awareness of mortgage finance among financial institutions and potential home buyers.
- Lifting the ban on mortgages for primary market (Buildings under construction)
- Activating real estate investment funds.
- Activating the secondary market in the current low interest rate environment through introducing various mortgage products to fit the real needs of the Egyptian market and appeals to the borrowers' appetite.
- Making the interest paid on mortgage loans tax deductible.
- Activating the escrow account system to ensure the rights of borrowers, developers and lenders.
- Eliminating the "guarantee checks" that developers ask property owners' to sign from the mortgage system.
- Enforcing foreclosure rules as deemed by the law.
- Adjustment of rental law will improve the mortgage finance system as raising the rent will push people to go for acquiring housing and mortgage will be a convenient option.
- Another important tool which we have seen in the US market that can be utilized in decreasing the cost for the end client is classifying the interest paid for mortgage loans as tax deductible to be collected from the mortgage companies directly.
- The government should stop striving for perfection where in many cases the overall result is often to worsen the position such that it becomes unattractive to provide the good or service.

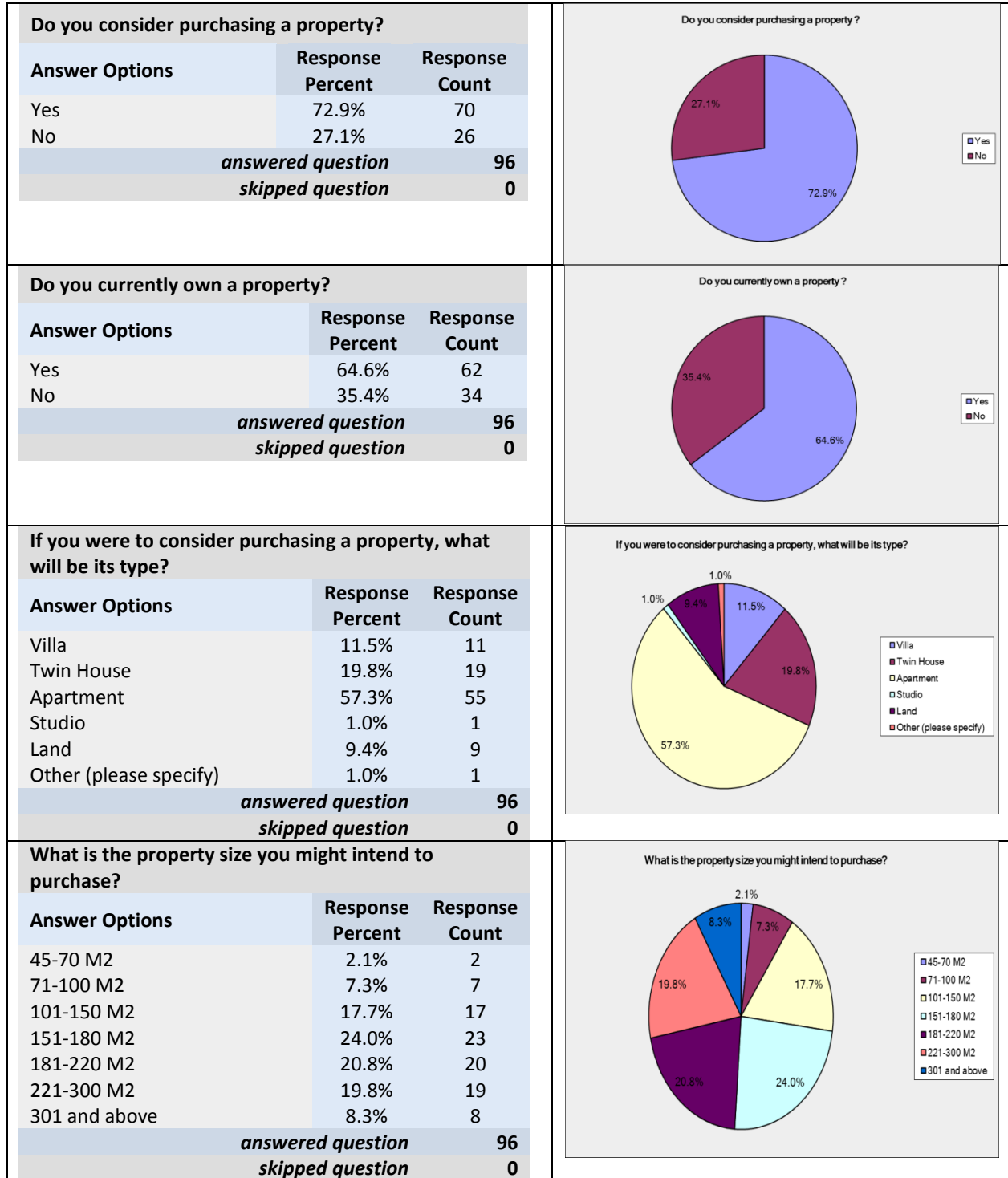
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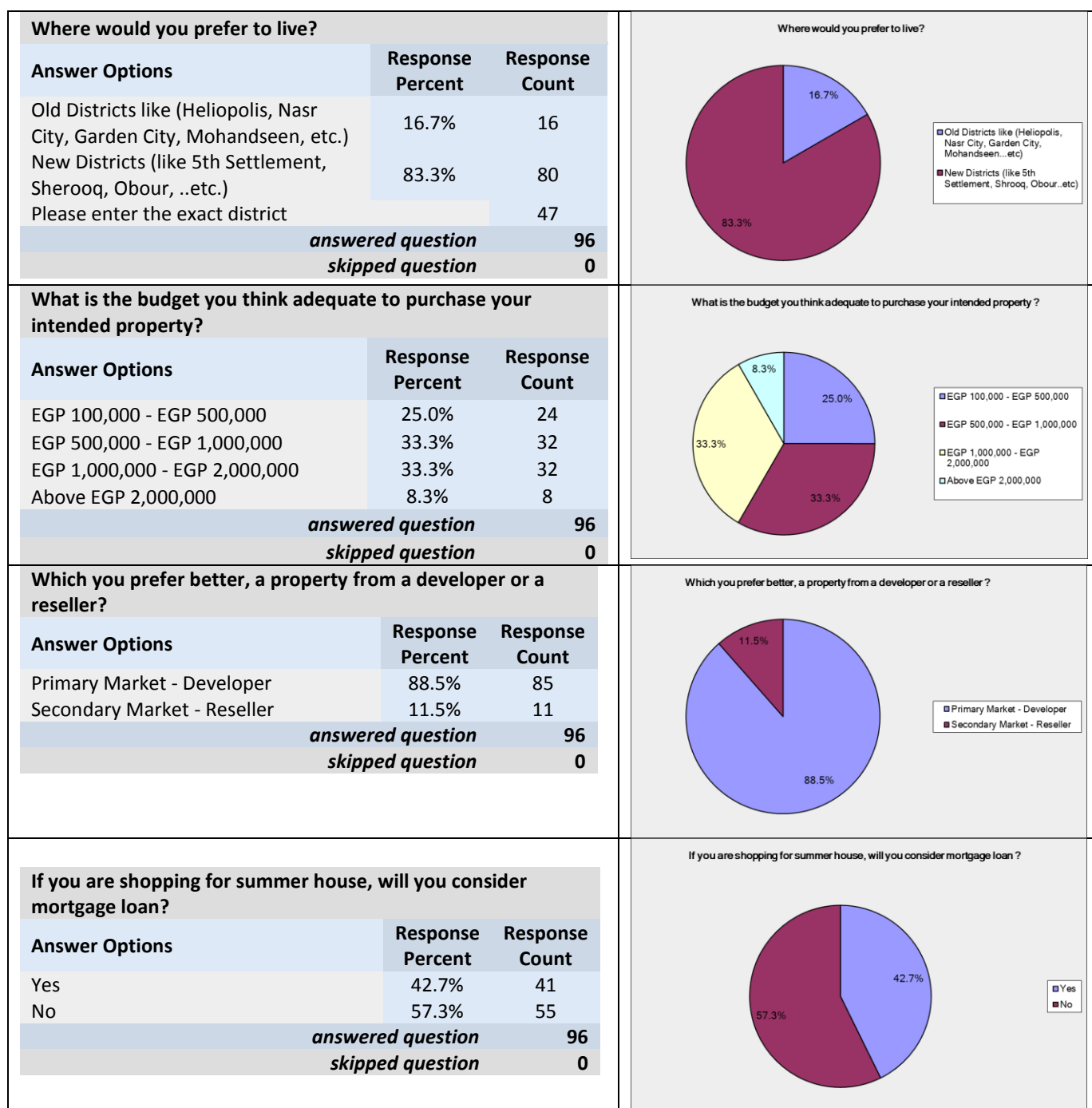
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APPENDICES

Appendix A: Survey Questions Statistical Analysis





If you apply to a mortgage loan, what will you use it for?		
Answer Options	Response Percent	Response Count
To purchase a primary residence	45.7%	43
To purchase a secondary residence	30.9%	29
To purchase a property for investment purposes	18.1%	17
Refinance	3.2%	3
Construction or Renovation	2.1%	2
answered question		94
skipped question		2

If you apply to a mortgage loan, what will you use it for ?	
	<ul style="list-style-type: none">To purchase a primary residenceTo purchase a secondary residenceTo purchase a property for investment purposesRefinanceConstruction or Renovation

Have you considered acquiring a mortgage loan?		
Answer Options	**Response Percent**	**Response Count**
Yes	47.9%	45
No	52.1%	49
answered question		**94**
skipped question		**2**

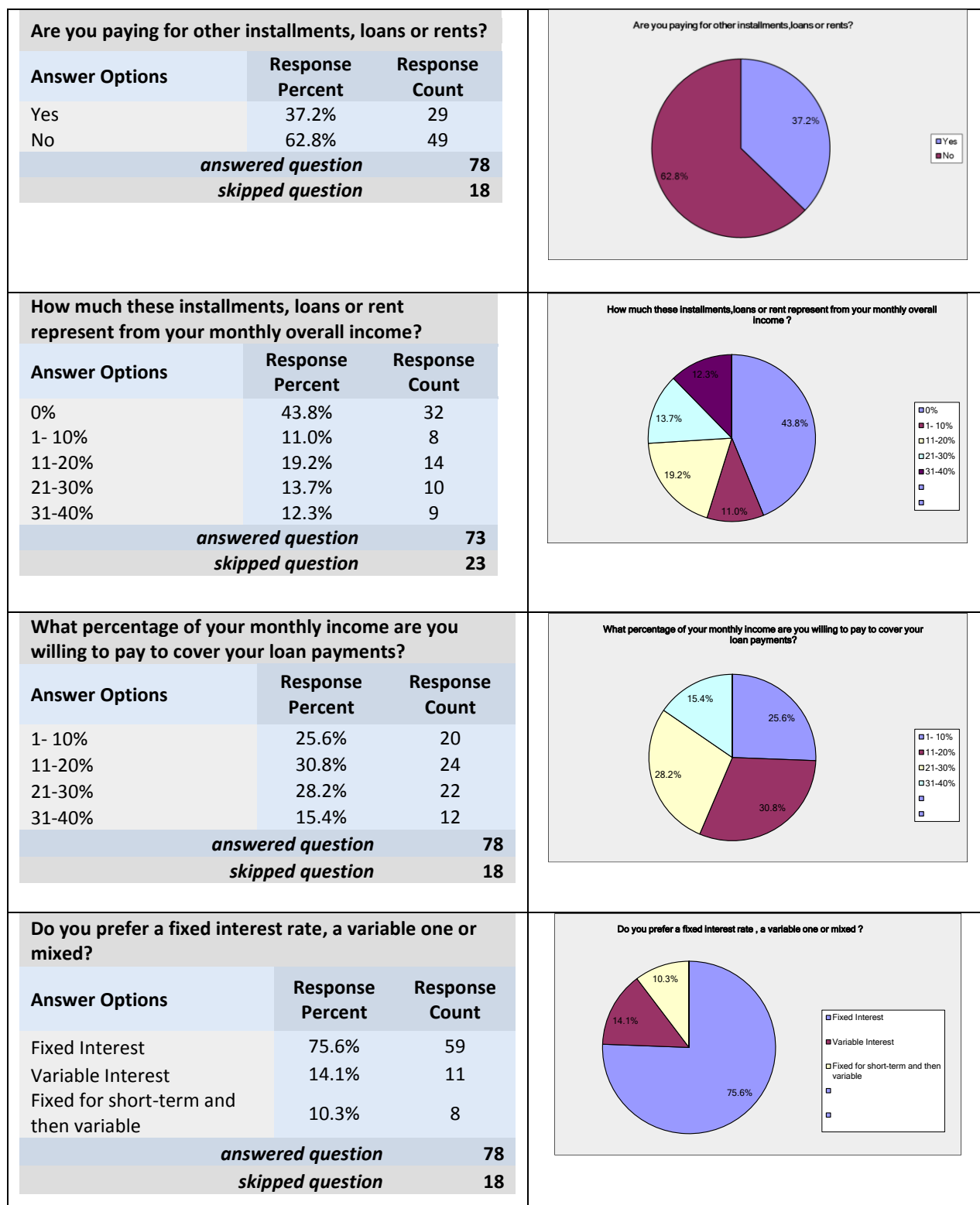
Have you considered acquiring a mortgage loan?	
	<ul style="list-style-type: none">YesNo

Have you acquired a mortgage loan?		
Answer Options	**Response Percent**	**Response Count**
Yes	10.6%	10
No	89.4%	84
answered question		**94**
skipped question		**2**

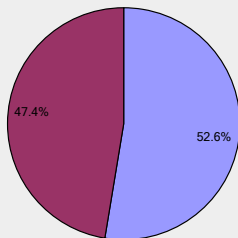
Have you acquired a mortgage loan?	
	<ul style="list-style-type: none">YesNo

If you are to acquire a mortgage loan, what terms of finance are you willing to pay through?		
Answer Options	**Response Percent**	**Response Count**
1-3 years	17.9%	14
4-6 years	28.2%	22
7-10 years	35.9%	28
11-15 years	9.0%	7
16-20 years	9.0%	7
answered question		**78**
skipped question		**18**

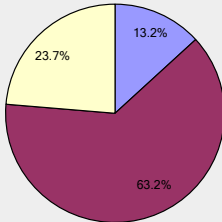
If you are to acquire a mortgage loan, what terms of finance are you willing to pay through?	
	<ul style="list-style-type: none">1-3 years4-6 years7-10 years11-15 years16-20 years



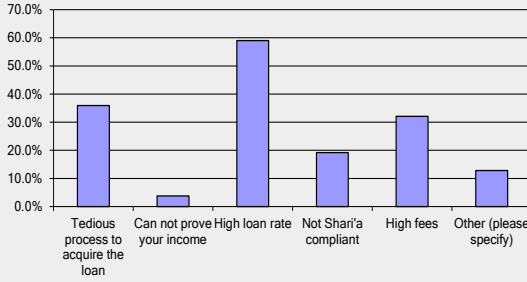
Are you willing to finance your property through a mortgage loan?		
Answer Options	Response Percent	Response Count
Yes	52.6%	41
No	47.4%	37
answered question		78
skipped question		18

Are you willing to finance your property through a mortgage loan ?	
	
<div><div>■ Yes</div><div>■ No</div></div>	

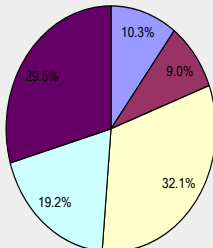
If you don't want to finance your property through mortgage loan, how will you finance it?		
Answer Options	**Response Percent**	**Response Count**
Pay in cash	13.2%	10
Pay installments to the developer	63.2%	48
Acquire a regular bank loan	23.7%	18
answered question		**76**
skipped question		**20**

If you don't want to finance your property through mortgage loan, how will you finance it ?	
	
<div><div>■ Pay in cash</div><div>■ Pay installments to the developer</div><div>□ Acquire a regular bank loan</div></div>	

Why would you refrain from acquiring a mortgage loan?		
Answer Options	**Response Percent**	**Response Count**
Tedious process to acquire the loan	35.9%	28
Cannot prove your income	3.8%	3
High loan rate	59.0%	46
Not Shari'a compliant	19.2%	15
High fees	32.1%	25
Other (please specify)	12.8%	10
answered question		**78**
skipped question		**18**

Why would you refrain from acquiring a mortgage loan ?	
	
<div><div>Tedious process to acquire the loan</div><div>Can not prove your income</div><div>High loan rate</div><div>Not Shari'a compliant</div><div>High fees</div><div>Other (please specify)</div></div>	

With a scale from 1 to 5, how likely are you willing to acquire a mortgage loan?		
Answer Options	**Response Percent**	**Response Count**
1 (Likely)	10.3%	8
2	9.0%	7
3	32.1%	25
4	19.2%	15
5 (Unlikely)	29.5%	23
answered question		**78**
skipped question		**18**

With a scale from 1 to 5,how likely are you willing to acquire a mortgage loan?	
	
<div><div>□ 1 (Likely)</div><div>■ 2</div><div>□ 3</div><div>□ 4</div><div>■ 5 (Unlikely)</div></div>	

What is your loan rate?			
Answer Options	Response Percent	Response Count	
1-5%	11.1%	1	
5-8%	44.4%	4	
8-10%	22.2%	2	
10-15%	11.1%	1	
15-20%	0.0%	0	
Above 20%	11.1%	1	
answered question		9	
skipped question		87	

What is your loan rate?		
<ul style="list-style-type: none">1-5%5-8%8-10%10-15%15-20%Above 20%		

What are the terms of your loan?			
Answer Options	**Response Percent**	**Response Count**	
1-3 years	0.0%	0	
4-6 years	55.6%	5	
7-10 years	11.1%	1	
11-15 years	11.1%	1	
16-20 years	22.2%	2	
answered question		**9**	
skipped question		**87**	

What are the terms of your loan?		
<ul style="list-style-type: none">1-3 years4-6 years7-10 years11-15 years16-20 years		

Answer Options	**Response Percent**	**Response Count**	
EGP 100,000 - EGP 250,000	33.3%	3	
EGP 250,000 - EGP 500,000	55.6%	5	
EGP 501,000 - EGP 750,000	0.0%	0	
EGP 751,000 - EGP 1,00,000	11.1%	1	
EGP 1,001,000 - EGP 1,500,000	0.0%	0	
EGP 1,501,000 - EGP 2,000,000	0.0%	0	
Above EGP 2,000,000	0.0%	0	
answered question		**9**	
skipped question		**87**	

What is your loan amount?		
<ul style="list-style-type: none">EGP 100,000 - EGP 250,000EGP 250,000 - EGP 500,000EGP 501,000 - EGP 750,000EGP 751,000 - EGP 1,00,000EGP 1,001,000 - EGP 1,500,000EGP 1,501,000 - EGP 2,000,000Above EGP 2,000,000		

What was your budget to purchase your property?			
Answer Options	**Response Percent**	**Response Count**	
EGP 100,000 - EGP 500,000	33.3%	3	
EGP 500,000 - EGP 1,000,000	44.4%	4	
EGP 1,000,000 - EGP 2,000,000	22.2%	2	
Above EGP 2,000,000	0.0%	0	
answered question		**9**	
skipped question		**87**	

What was your budget to purchase your property ?		
<ul style="list-style-type: none">EGP 100,000 - EGP 500,000EGP 500,000 - EGP 1,000,000EGP 1,000,000 - EGP 2,000,000Above EGP 2,000,000		

<div>How long the underwriting process took?</div> <table><tr><th>Answer Options</th><th>Response Percent</th><th>Response Count</th></tr><tr><td>1-2 weeks</td><td>22.2%</td><td>2</td></tr><tr><td>2-4 weeks</td><td>55.6%</td><td>5</td></tr><tr><td>4-6 weeks</td><td>22.2%</td><td>2</td></tr><tr><td>6-8 weeks</td><td>0.0%</td><td>0</td></tr><tr><td>more than 8 weeks</td><td>0.0%</td><td>0</td></tr><tr><td colspan="2">answered question</td><td>9</td></tr><tr><td colspan="2">skipped question</td><td>87</td></tr></table>	Answer Options	Response Percent	Response Count	1-2 weeks	22.2%	2	2-4 weeks	55.6%	5	4-6 weeks	22.2%	2	6-8 weeks	0.0%	0	more than 8 weeks	0.0%	0	answered question		9	skipped question		87	<div>How long the underwriting process took?</div> <table><tr><td>1-2 weeks</td><td>22.2%</td></tr><tr><td>2-4 weeks</td><td>55.6%</td></tr><tr><td>4-6 weeks</td><td>22.2%</td></tr><tr><td>6-8 weeks</td><td>0.0%</td></tr><tr><td>more than 8 weeks</td><td>0.0%</td></tr></table>	1-2 weeks	22.2%	2-4 weeks	55.6%	4-6 weeks	22.2%	6-8 weeks	0.0%	more than 8 weeks	0.0%										
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<div>Where is your property located?</div> <table><tr><th>Answer Options</th><th>Response Percent</th><th>Response Count</th></tr><tr><td>Old Districts like (Heliopolis, Nasr City, Garden City, Mohandseen ...etc.)</td><td>11.1%</td><td>1</td></tr><tr><td>New Districts (like 5th Settlement, Sherooq, Obour ...etc.)</td><td>88.9%</td><td>8</td></tr><tr><td>Please enter the exact district</td><td></td><td>4</td></tr><tr><td colspan="2">answered question</td><td>9</td></tr><tr><td colspan="2">skipped question</td><td>87</td></tr></table>	Answer Options	Response Percent	Response Count	Old Districts like (Heliopolis, Nasr City, Garden City, Mohandseen ...etc.)	11.1%	1	New Districts (like 5th Settlement, Sherooq, Obour ...etc.)	88.9%	8	Please enter the exact district		4	answered question		9	skipped question		87	<div>Where is your property located?</div> <table><tr><td>Old Districts like (Heliopolis, Nasr City, Garden City, Mohandseen...etc)</td><td>11.1%</td></tr><tr><td>New Districts (like 5th Settlement, Shrooq, Obour...etc)</td><td>88.9%</td></tr></table>	Old Districts like (Heliopolis, Nasr City, Garden City, Mohandseen...etc)	11.1%	New Districts (like 5th Settlement, Shrooq, Obour...etc)	88.9%																						
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<div>What is the property size ?</div> <table><tr><th>Answer Options</th><th>Response Percent</th><th>Response Count</th></tr><tr><td>45-70 M2</td><td>0.0%</td><td>0</td></tr><tr><td>71-100 M2</td><td>0.0%</td><td>0</td></tr><tr><td>101-150 M2</td><td>33.3%</td><td>3</td></tr><tr><td>151-180 M2</td><td>33.3%</td><td>3</td></tr><tr><td>181-220 M2</td><td>11.1%</td><td>1</td></tr><tr><td>221-300 M2</td><td>11.1%</td><td>1</td></tr><tr><td>301 and above</td><td>11.1%</td><td>1</td></tr><tr><td colspan="2">answered question</td><td>9</td></tr><tr><td colspan="2">skipped question</td><td>87</td></tr></table>	Answer Options	Response Percent	Response Count	45-70 M2	0.0%	0	71-100 M2	0.0%	0	101-150 M2	33.3%	3	151-180 M2	33.3%	3	181-220 M2	11.1%	1	221-300 M2	11.1%	1	301 and above	11.1%	1	answered question		9	skipped question		87	<div>What is the property size ?</div> <table><tr><td>45-70 M2</td><td>0.0%</td></tr><tr><td>71-100 M2</td><td>0.0%</td></tr><tr><td>101-150 M2</td><td>33.3%</td></tr><tr><td>151-180 M2</td><td>33.3%</td></tr><tr><td>181-220 M2</td><td>11.1%</td></tr><tr><td>221-300 M2</td><td>11.1%</td></tr><tr><td>301 and above</td><td>11.1%</td></tr></table>	45-70 M2	0.0%	71-100 M2	0.0%	101-150 M2	33.3%	151-180 M2	33.3%	181-220 M2	11.1%	221-300 M2	11.1%	301 and above	11.1%
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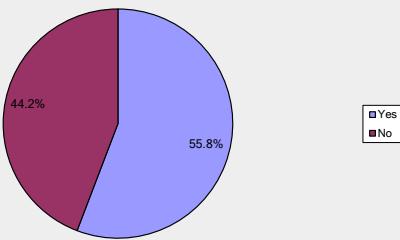
From where did you acquire the loan?		
Answer Options	Response Percent	Response Count
Bank	88.9%	8
Mortgage Company	11.1%	1
Other (please specify)		0
answered question		9
skipped question		87

What is your gender?		
Answer Options	Response Percent	Response Count
Female	44.2%	38
Male	55.8%	48
answered question		86
skipped question		10

How old are you?		
Answer Options	Response Percent	Response Count
21-30	23.3%	20
31-40	39.5%	34
41-50	24.4%	21
51-60	9.3%	8
60 and above	3.5%	3
answered question		86
skipped question		10

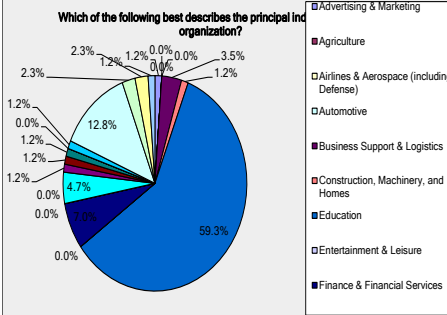
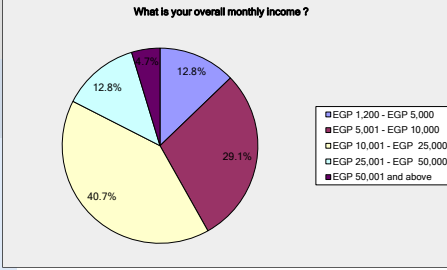
Which of the following best describes your current relationship status?		
Answer Options	Response Percent	Response Count
Married	61.6%	53
Widowed	0.0%	0
Divorced	1.2%	1
Separated	1.2%	1
In a domestic partnership or civil union	0.0%	0
Single, but cohabiting with a significant other	4.7%	4
Single, never married	31.4%	27
answered question		86
skipped question		10

Do you have children?		
Answer Options	Response Percent	Response Count
Yes	55.8%	48
No	44.2%	38
answered question		86
skipped question		10

Do you have children?		
		

How many children do you have?		
Answer Options	**Response Percent**	**Response Count**
0	41.5%	34
1	12.2%	10
2	39.0%	32
3	4.9%	4
4	1.2%	1
5 and above	1.2%	1
answered question		**82**
skipped question		**14**
How many children do you have?		
Which of the following categories best describes your employment status?		
Answer Options	**Response Percent**	**Response Count**
Employed, working full-time	91.9%	79
Employed, working part-time	3.5%	3
Not employed, looking for work	1.2%	1
Not employed, NOT looking for work	1.2%	1
Retired	1.2%	1
Disabled, not able to work	0.0%	0
Student	1.2%	1
answered question		**86**
skipped question		**10**
Which of the following categories best describes your employment status?		
If self-employed, is your business registered?		
Answer Options	**Response Percent**	**Response Count**
Yes	17.1%	7
No	82.9%	34
answered question		**41**
skipped question		**55**
If self-employed, is your business registered?		

Table 1: Descriptive Statistics

Which of the following best describes the principal industry of your organization?				
Answer Options	Response Percent	Response Count		
Advertising & Marketing	1.2%	1		
Agriculture	0.0%	0		
Airlines & Aerospace (including Defense)	0.0%	0		
Automotive	0.0%	0		
Business Support & Logistics	3.5%	3		
Construction, Machinery, and Homes	1.2%	1		
Education	59.3%	51		
Entertainment & Leisure	0.0%	0		
Finance & Financial Services	7.0%	6		
Food & Beverages	0.0%	0		
Government	0.0%	0		
Healthcare & Pharmaceuticals	4.7%	4		
Insurance	1.2%	1		
Manufacturing	1.2%	1		
Nonprofit	1.2%	1		
Retail & Consumer Durables	0.0%	0		
Real Estate	1.2%	1		
Telecommunications, Technology, Internet & Electronics	12.8%	11		
Transportation & Delivery	2.3%	2		
Utilities, Energy, and Extraction	2.3%	2		
I am currently not employed	1.2%	1		
answered question		86		
skipped question		10		
What is your overall monthly income?				
Answer Options	Response Percent	Response Count		
EGP 1,200 - EGP 5,000	12.8%	11		
EGP 5,001 - EGP 10,000	29.1%	25		
EGP 10,001 - EGP 25,000	40.7%	35		
EGP 25,001 - EGP 50,000	12.8%	11		
EGP 50,001 and above	4.7%	4		
answered question		86		
skipped question		10		

Appendix B: Regression Results

Regression results with respect to the willingness of acquiring a mortgage loan		
Variable	Coefficient	Prob.
AGE_21_30	11.8389	0.049
AGE_31_40	15.3187	0.039
AGE_41_50	13.12164	0.052
AGE_51_60	11.91918	0.082
ARE_YOU_PAYING_OTHER_LOA	1.07182	0.529
BUY_FROM_PRIMARY	1.14311	0.484
BUY_PROPERTY_APARTMENT	3.052486	0.477
BUY_PROPERTY_LAND	-2.45188	0.392
BUY_PROPERTY_TWINHOUSE	-3.927141	0.169
BUY_PROPERTY_VILLA	-4.720083	0.128
CHILDREN_COUNT_0	-17.48879	0.044
CHILDREN_COUNT_1	-12.59161	0.106
CHILDREN_COUNT_2	-8.687272	0.039
EMPLOYMENT_FULL_TIME	-11.80699	0.049
EMPLOYMENT_PART_TIME	-1.868625	0.999
INCOME_5K_10K	-3.069028	0.116
INCOME_1200_5K	-2.275057	0.348
INDSUTRY_FINANCE_FINANCI	6.585626	0.081
INDSUTRY_HEALTHCARE_PHAR	17.60051	0.051
INDUSTRY_BUSINESSSUPPORT	9.008551	0.112
INDUSTRY_EDUCATION	6.04658	0.071
INDUSTRY_TELECOMMUNICATI	6.785003	0.126
INDUSTRY_TRANSPORTATION_	9.793852	0.823
INETERST_TYPE_FIXED	3.315464	0.096
INTEREST_TYPE_BOTH	4.527269	0.074
LOAN_11_15_YRS	-4.550025	0.231
LOAN_16_20_YRS	-4.498125	0.202
LOAN_1_3_YRS	-5.451295	0.035
LOAN_4_6_YRS	-7.031259	0.157
MARTIAL_STATUS_MARRIED	-11.20986	0.065
MARTIAL_STATUS_SINGLE	0.550864	0.822
MORT_LOAN_USAG_PRIMARY	14.90915	0.031
MORT_LOAN_USAGE_INVESTME	12.34513	0.037
MORT_LOAN_USAGE_SECONDAR	13.8791	0.04
NEW_DISTRICTS	-1.084602	0.561
PROP_BUDGET_500K_1M	4.587867	0.05
SIZE_101_150M2	-3.338097	0.226
SIZE151_180M2	-5.922635	0.135

OTHER_LOANS_REPRS_0	2.757442	0.44
OTHER_LOANS_REPRS_11_20	-1.884502	0.409
PERCENTAGE_MONTHLY_IN01	-1.587696	0.238
GENDER_MALE	-2.928235	0.107

Table 2: Regression Results

Appendix C: Survey Questions

Property

What is Mortgage Loan ?

"A mortgage loan is a loan that is secured by property or real estate is called a mortgage. In exchange for funds received by the home-buyer to buy property or a home, a lender gets the promise of that buyer to pay back the funds within a certain time frame for a certain cost"

*** 1. Do you currently own a property ?**

- ☐ Yes
- ☐ No

*** 2. Do you consider purchasing a property ?**

- ☐ Yes
- ☐ No

*** 3. If you were to consider purchasing a property, what will be its type?**

- ☐ Villa
- ☐ Twin House
- ☐ Apartment
- ☐ Studio
- ☐ Land
- ☐ Other (please specify)

*** 4. What is the property size you might intend to purchase?**

- ☐ 45-70 M2
- ☐ 71-100 M2
- ☐ 101-150 M2
- ☐ 151-180 M2
- ☐ 181-220 M2

- ☐ 221-300 M2
- ☐ 301 and above

*** 5. Where would you prefer to live?**

- ☐ Old Districts like (Heliopolis, Nasr City, Garden City, Mohandseen...etc)
- ☐ New Districts (like 5th Settlement, Shrooq, Obour..etc)

Please enter the exact district

*** 6. What is the budget you think adequate to purchase your intended property ?**

- ☐ EGP 100,000 - EGP 500,000
- ☐ EGP 500,000 - EGP 1,000,000
- ☐ EGP 1,000,000 - EGP 2,000,000
- ☐ Above EGP 2,000,000

*** 7. Which you prefer better, a property from a developer or a reseller ?**

- ☐ Primary Market - Developer
- ☐ Secondary Market - Reseller

*** 8. If you are shopping for summer house, will you consider mortgage loan ?**

- ☐ Yes
- ☐ No

Financials

*** 9. If you apply to a mortgage loan, what will you use it for ?**

- ☐ To purchase a primary residence
- ☐ To purchase a secondary residence
- ☐ To purchase a property for investment purposes
- ☐ Refinance
- ☐ Construction or Renovation

*** 10. Have you considered acquiring a mortgage loan?**

- ☐ Yes
- ☐ No

*** 11. Have you acquired a mortgage loan?**

- ☐ Yes
- ☐ No

If you acquired a loan

*** 12. What is your loan rate?**

- ☐ 1-5%
- ☐ 5-8%
- ☐ 8-10%
- ☐ 10-15%
- ☐ 15-20%
- ☐ Above 20%

*** 13. What are the terms of your loan?**

- ☐ 1-3 years
- ☐ 4-6 years
- ☐ 7-10 years
- ☐ 11-15 years
- ☐ 16-20 years

*** 14. What is your loan amount?**

- ☐ EGP 100,000 - EGP 250,000
- ☐ EGP 250,000 - EGP 500,000
- ☐ EGP 501,000 - EGP 750,000
- ☐ EGP 751,000 - EGP 1,00,000
- ☐ EGP 1,001,000 - EGP 1,500,000
- ☐ EGP 1,501,000 - EGP 2,000,000
- ☐ Above EGP 2,000,000

*** 15. What was your budget to purchase your property ?**

- ☐ EGP 100,000 - EGP 500,000
- ☐ EGP 500,000 - EGP 1,000,000
- ☐ EGP 1,000,000 - EGP 2,000,000
- ☐ Above EGP 2,000,000

*** 16. How long the underwriting process took?**

- ☐ 1-2 weeks
- ☐ 2-4 weeks
- ☐ 4-6 weeks
- ☐ 6-8 weeks
- ☐ more than 8 weeks

*** 17. What type of property you acquired ?**

- ☐ Villa
- ☐ Twin House
- ☐ Apartment
- ☐ Studio
- ☐ Land
- ☐ Other (please specify)

*** 18. Where is your property located?**

- ☐ Old Districts like (Heliopolis, Nasr City, Garden City, Mohandseen...etc)
- ☐ New Districts (like 5th Settlement, Shrooq, Obour..etc)

Please enter the exact district

*** 19. What is the property size ?**

- ☐ 45-70 M2
- ☐ 71-100 M2
- ☐ 101-150 M2
- ☐ 151-180 M2
- ☐ 181-220 M2
- ☐ 221-300 M2
- ☐ 301 and above

*** 20. From where did you acquire the loan?**

- ☐ Bank
- ☐ Mortgage Company
- Other (please specify)

Demographics

*** 21. What is your gender?**

- ☐ Female
- ☐ Male

*** 22. How old are you?**

- ☐ 21-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 60 and above

*** 23. Which of the following best describes your current relationship status?**

- ☐ Married
- ☐ Widowed
- ☐ Divorced
- ☐ Separated
- ☐ In a domestic partnership or civil union
- ☐ Single, but cohabiting with a significant other
- ☐ Single, never married

*** 24. Do you have children?**

- ☐ Yes
- ☐ No

25. How many children do you have?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 and above

*** 26. Which of the following categories best describes your employment status?**

- ☐ Employed, working full-time
- ☐ Employed, working part-time
- ☐ Not employed, looking for work
- ☐ Not employed, NOT looking for work
- ☐ Retired
- ☐ Disabled, not able to work
- ☐ Student

27. If self-employed, is your business registered?

- ☐ Yes
- ☐ No

*** 28. Which of the following best describes the principal industry of your organization?**

*** 29. What is your overall monthly income ?**

- ☐ EGP 1,200 - EGP 5,000
- ☐ EGP 5,001 - EGP 10,000
- ☐ EGP 10,001 - EGP 25,000
- ☐ EGP 25,001 - EGP 50,000
- ☐ EGP 50,001 and above